

What is claimed is:

1. A computer architecture for managing resources for replication of data stored in a  
5 data storage environment including at least two data storage systems, and wherein data is  
replicated from one of the at least two data storage systems to at least one other data  
storage system of the at least two data storage systems, the architecture comprising:  
a data replication management server;  
one or more data replication management software agents in communication with at least  
10 one of the two data storage systems and the data replication management server, the  
agents being configured for performing data replication operations in response to  
commands from the data replication management server; wherein server commands to  
each of the software agents are sent over a network in accordance with an IP protocol;  
and one or more data replication management clients that may include a software  
15 application that uses data that is replicated by commands from the server to the software  
agent.
2. The architecture of claim 1, wherein at least one of the one or more clients  
includes a graphical user interface.
- 20 3. The architecture of claim 1, wherein a switch is disposed in a communication path  
between the one or more software agents and the at least two data storage systems.

4. The architecture of claim 3, wherein the switch is used to determine the direction of data flow from one data storage system to one other data storage system of the at least two data storage systems for controlling which data storage system functions as a target for data replication and which functions as a source for data replication, wherein the replication is controlled by the server.
5. The architecture of Claim 4, wherein the server stores configuration information for replication, security and other configuration settings for the one or more software agents and the one or more clients in the data storage environment.
6. The architecture of Claim 5, wherein communication between the server and the one or more clients is encrypted for security purposes.
7. The architecture of Claim 6, wherein communication between the server and the one or more clients is encrypted with at least 128 bit keys.
8. The architecture of Claim 7, wherein communication between the server and the one or more clients is encrypted with at least 256 bit keys.
9. The architecture of Claim 6, wherein a secure socket layer (SSL) protocol is used for communication between the server and the one or more clients.

10. A method for managing resources for replication of data stored in a data storage environment including at least two data storage systems, and wherein data is replicated under control of a server from one of the at least two data storage systems to at least one  
5 other data storage system of the at least two data storage systems, the method comprising: one or more data replication management software agents in communication with at least one of the two data storage systems and the server, the agents being configured for performing data replication operations in response to commands from the server; wherein server commands to each of the software agents are sent over a network in accordance  
10 with an IP protocol.

11. The method of Claim 10, wherein the environment includes one or more clients that enable communication of a user with the server through a graphical user interface, and wherein the one or more clients may include a software application that uses data that  
15 is replicated by commands from the server to the software agent.

12. The method of claim 10, wherein a switch is disposed in a communication path between the one or more software agents and the at least two data storage systems.

20 13. The method of claim 12, wherein the switch is used to determine the direction of data flow from one data storage system to one other data storage system of the at least two data storage systems for controlling which data storage system functions as a target

for data replication and which functions as a source for data replication, wherein the replication is controlled by the server.

14. The method of Claim 11, wherein the server stores configuration information for  
5 replication, security and other configuration settings for the one or more software agents  
and the one or more clients in the data storage environment.

15. The method of Claim 14, wherein communication between the server and the one  
or more clients is encrypted for security purposes.  
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16. The method of Claim 15, wherein communication between the server and the one  
or more clients is encrypted with at least 128 bit keys.

17. The method of Claim 16, wherein communication between the server and the one  
15 or more clients is encrypted with at least 256 bit keys.

18. A system for managing resources for replication of data stored in a data storage  
environment including at least two data storage systems, and wherein data is replicated  
from one of the at least two data storage systems to at least one other data storage system  
20 of the at least two data storage systems, the system comprising:  
a data replication management server;

one or more data replication management software agents in communication with at least one of the two data storage systems and the data replication management server, the agents being configured with a computer-executable program for performing data replication operations in response to commands from the data replication management  
5 server; wherein server commands to each of the software agents are sent over a network in accordance with an IP protocol; and one or more data replication management clients that may include a software application that uses data that is replicated by commands from the server to the software agent.

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